



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|------------------------|-----------------------------|------------------|
| 10/669,025 | 09/23/2003 | Peter Traneus Anderson | 133167NV (MHM 15083US01) | 1825 |
| 23446 7590 10/08/2008 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661 | | | | |
| EXAMINER | | | | |
| KISH, JAMES M | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3737 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 10/08/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/669,025

Applicant(s)

ANDERSON, PETER TRANEUS

Examiner

JAMES KISH

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10 and 12-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5, 7-10 and 12-23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

The prior art cited in the previous Office Action has been removed and replaced by US Patent No. 6,266,552, issued to Slettenmark, and US Patent No. 5,800,352, issued to Ferre et al. However, based on further consideration the Examiner provides the following rebuttal to at least a portion of the Applicant's arguments.

Regarding the Applicant's arguments that the prior art fails to teach "wherein when said receiver assembly is moved relative to said transmitter assembly, relative motion among said transmitter coil trio, said receiver coil trio and said single coil trio is asymmetrical, wherein the asymmetrical relative motion alleviates hemisphere ambiguity (claim 1)." This language (or similar language) is also found within claims 10, 21, 22 and 23. These limitations are purely functional language and represent the intended use of the tracking system. They do not provide further structural limitations to the systems and are therefore not granted patentable weight in an apparatus claim. Also, "... assembly is positioned on a medical instrument and the other of said receiver assembly and said transmitter assembly is configured to be positioned on a patient (lines 4-5 of claim 1)," which is also found in claims 10, is an intended use of the tracking system. Therefore, the system claims comprise at least one transmitter coil trio, at least one receiver coil trio and a single coil mounted on one of said receiver or transmitter coil trios (depending on which apparatus claim is being considered).

Section 2113 of the MPEP states, "A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)." Furthermore, Section 2114 of the MPEP states, "While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)." Also found in Section 2114, the MPEP states (with emphasis in the original), "Apparatus claims cover what a device *is*, not what a device *does*." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)."

Based on the above arguments, the Examiner does not acquiesce that the prior art provided in the previous Office Actions have been overcome by the Applicant's arguments and the Examiner reserves the right to re-introduce such prior art in future Office Actions if such prior should remain relevant to the claims of the current application. If further explanation is required for such re-introduction, the Examiner will complete the response to the remainder of the Applicant's arguments at that time. However, through further search and consideration, a new rejection based the previously mentioned patents to Slettenmark and Ferre et al. is provided below.

Claim Objections

Claims 2 and 3 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims provide no structural limitations that further limit the structure of the tracking system claimed in claim 1. The language of these claims are purely functional.

Claims 1-5, 7-10 and 12-23 are objected to because of the following informalities:

It is unclear what is meant by the relative motion is asymmetrical. The concept of symmetry generally requires a point of reference. For example, symmetry through a point, through a line, through an axis, etc.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7-8, 10, 12-13, 15, 17, 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Slettenmark (US Patent No. 6,266,552). Slettenmark discloses an arrangement for locating a measurement and/or treatment catheter in a vessel or organ of a patient. Claim 9 discloses a tracking system with at least a transmitter and a

receiver unit. Claim 19 of Slettenmark discloses a transmitter comprising a coil system, selected from a group including, among others, a triaxial coil system and a single coil. Claim 20 discloses a receiver comprises a coil system from a group including, among others, a triaxial coil system and a single coil. Claims 21 and 22 provide for a plurality of different transmitters. These are also discussed at column 3, lines 20-26 of the disclosure of Slettenmark, where it is also stated that the catheter portion between the coil systems **32**, and **34** must be rigid such that the relative positions of the coil systems remain constant. Also see column 4, lines 35-44, column 6, lines 55-59. Column 8, lines 57-67 provides that the transducer configuration and distances between the transducers can be known and in knowing the other device can be located. Column 9, lines 12-18 discloses that transmitters can be mounted as well on the fixed reference catheter as on the measurement and treatment catheters and vice versa for the receivers means, thereby providing a reversal of parts for the location of the receiver and transmitters. Similarly, this cited portion provides that the teachings described for either transmitters and receivers type, whether they be ultrasound or electromagnetic, are encompassed by each other. Column 2, lines 54-59 discusses the use of this arrangement in alleviating hemisphere ambiguities, or as stated in the reference, "to distinguish the true catheter position from its mirror positions."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9, 14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slettenmark in view of Ferre et al. (US Patent No. 5,800,352). Slettenmark discloses an arrangement for locating a measurement and/or treatment catheter in a vessel or organ of a patient. Slettenmark has been previously described in the rejection of claim 15. However, Slettenmark does not explicitly teach the exact methods of determining two positions and using predictions of a field model. Ferre teaches a registrations system and methods for use with position tracking and imaging systems in medical applications. Ferre teaches that a reference sensor is to be securely mounted to a transmitter assembly at a fixed distance from the center of the transmitter (column 10, lines 32-34). Furthermore, multiple receivers are utilized for error detection purposes (column 10, lines 42-67). It has been discovered that an error detection system sufficient to identify localized uniform distortions in the area of the medical instrument or headset may be designed by using two sensors separated by a fixed distance. Virtual locations are continuously calculated and compared with factory defined positions (column 11, lines 1 through column 12, line 53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the methods of Ferre with the system and methods of Slettenmark, thereby using the orthogonal coil structure with a single coil or Slettenmark as the two sensors discussed in Ferre. It would be obvious in order to detect errors in the positioning information localized around the sensors.

Regarding claims 9 and 14, both references teach having a single coil (Slettenmark) and/or a reference sensor (Ferre) in connection with either the transmitter or receiver. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include multiple single coils, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Regarding the "different fixed distances" absent some showing of criticality, it would be an obvious matter of design choice to provide different spacing between units and corresponding single coils in order to be able to have an identifier (i.e., the identifier being the predetermined spacing) for each transmitter/receiver used.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES KISH whose telephone number is (571)272-5554. The examiner can normally be reached on 8:30 - 5:00 ~ Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

JMK